

GEPHE SUMMARY

	Gephebase Gene		GepheID
Lectin-24A ( <a href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=Lectin-24A^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=Lectin-24A^#gephebase-summary-title</a> )		GP00002655	
	Entry Status	Courtier	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category		
Physiology ( <a href="https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology^#gephebase-summary-title</a> )			
	Trait		
Pathogen resistance (parasitic wasp) ( <a href="https://www.gephebase.org/search-criteria?/and+Trait=Pathogen+resistance+(parasitic+wasp)^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=Pathogen+resistance+(parasitic+wasp)^#gephebase-summary-title</a> )			
	Trait State in Taxon A		
Drosophila melanogaster - resistant			
	Trait State in Taxon B		
Drosophila melanogaster - lost the resistance			
	Ancestral State		
Taxon A			
	Taxonomic Status		
Intraspecific ( <a href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=Intraspecific^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=Intraspecific^#gephebase-summary-title</a> )			
Taxon A		Taxon B	
	Latin Name		Latin Name
Drosophila melanogaster ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Drosophila+melanogaster^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Drosophila+melanogaster^#gephebase-summary-title</a> )		Drosophila melanogaster ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Drosophila+melanogaster^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Drosophila+melanogaster^#gephebase-summary-title</a> )	
	Common Name		Common Name
fruit fly		fruit fly	
	Synonyms		Synonyms
Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster		Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	
	Parent		Parent
melanogaster subgroup () - (Rank: species subgroup) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351</a> )		melanogaster subgroup () - (Rank: species subgroup) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351</a> )	
	NCBI Taxonomy ID		NCBI Taxonomy ID
7227 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227</a> )		7227 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227</a> )	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB
-		0	
	Synonyms		GenebankID or UniProtKB
-		0	
	String		
-			
	Sequence Similarities		
-			
	GO - Molecular Function		
-			
	GO - Biological Process		
-			
	GO - Cellular Component		
-			
			Presumptive Null

No (<https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title>)

Molecular Type

Cis-regulatory (<https://www.gephebase.org/search-criteria?/and+Molecular Type=^Cis-regulatory^#gephebase-summary-title>)

Aberration Type

Deletion (<https://www.gephebase.org/search-criteria?/and+Aberration Type=^Deletion^#gephebase-summary-title>)

Deletion Size

10-99 bp

Molecular Details of the Mutation

A cis-regulatory polymorphism in the gene Lectin-24A abolishes expression after infection and strongly reduces survival. 21bp indel (c.-171\_-151del)

Experimental Evidence

Linkage Mapping (<https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Linkage Mapping^#gephebase-summary-title>)

Main Reference

Recurrent loss of an immunity gene that protects *Drosophila* against a major natural parasite . (2022) (<https://pubmed.ncbi.nlm.nih.gov/00000000.000050>)

Authors

Arunkumar Ramesh; Zhou Shuyu Olivia; Day Jonathan P; Bakare Sherifat; Pitton Simone; Hsing Chi-Yun; O'Boyle Sinead; Pascual-Gil Juan; Clark Belinda; Chandler Rachael J

Abstract

-

Additional References

## RELATED GEPHE

Related Genes

15 (18-wheeler, CG8492, Dipteracin, Drosomycin-like 5, Ge-1, GGBP1, GGBP2, Immune deficiency, pastrel, PGRP-LC, ref(2)P, SR-CII, Tehao, Ubiquitin conjugating enzyme E2H (Ubc-E2H), CHKov1) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=^7227^/and+Trait=Pathogen resistance/and+groupHaplotypes=true#gephebase-summary-title>)

Related Haplotypes

4 (<https://www.gephebase.org/search-criteria?/or+Gene Gephebase=^Lectin-24A^/and+Taxon ID=^7227^/or+Gene Gephebase=^Lectin-24A^/and+Taxon ID=^7227^#gephebase-summary-title>)

## EXTERNAL LINKS

## COMMENTS

Lectin-24A is important in the immune response that protects fruit flies against one of their main natural enemies—parasitic wasps. This immune defiance appears to be costly. Many flies carry mutated copies of this gene that are no longer functional. @BioRxiv @CRISPR